Alg. 2 Warm Up # 3-3

This is Week 3, day 3.
Name and Team # at the top!

1. Write an equation and solve...

The length of a rectangle is 3 cm more than the width. The area is 40 cm^2. Find the perimeter.

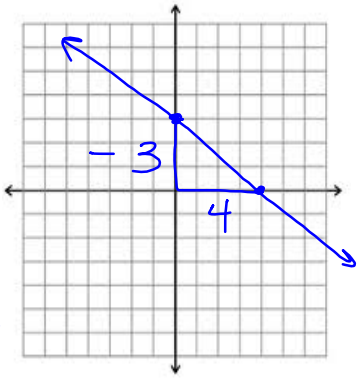
2. Solve: $5 + \frac{2}{x} = -23$

Preview

HW Questions:

1-104. Find the slope and intercepts of $3x + 4y = 12$. Sketch a graph.

(4, 0)
(0, 3)

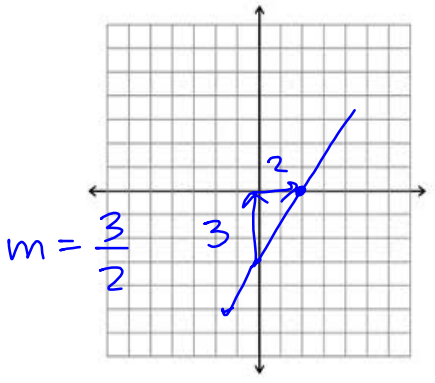


$m = -\frac{3}{4}$

1-105. Write an equation for the line that passes through the points (2, 0) and (0, –3). Remember that drawing a diagram (in this case, drawing the graph) can be very helpful.

y-int.

$y = \frac{3}{2}x - 3$



1-106. Solve each equation below. Give solutions in both radical and decimal form.

a. $x^2 + 3x - 3 = 0$

b. $3x^2 - 7x = 12$

$3x^2 - 7x - 12 = 0$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = \frac{7 \pm \sqrt{(-7)^2 - 4(3)(-12)}}{2(3)}$ (49 + 144)

$x = \frac{7 \pm \sqrt{193}}{6}$

$x \approx$

1-107. Jason loves to download music. *Downloads R Us* sells songs only in packages of three, and it charges $2.00 for each package of three songs. Jason's favorite group just released their *Greatest Hits* CD, which has 17 songs on it. Jason wants to buy all 17 songs from *Downloads R Us*. How much should Jason expect to pay?

Start

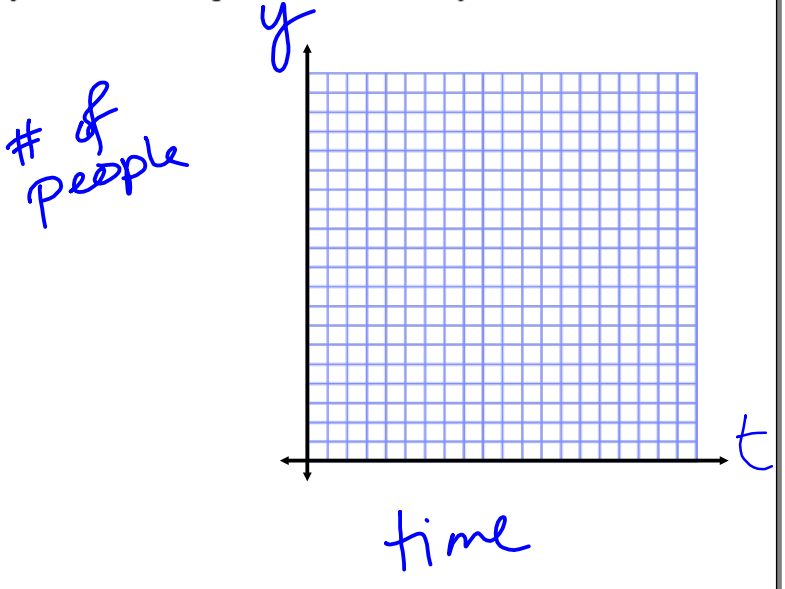
17 ~~songs~~ $\frac{\$2.00}{3 \text{ songs}}$

18

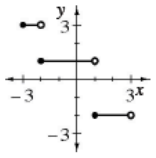
So: $\frac{18(2)}{3}$

end = $12

1-108. Make a sketch of a graph showing the relationship between the number of people on your school's campus and the time of day.

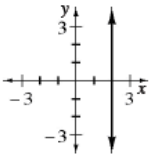


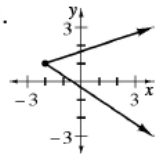
1-109. For each graph below, what are the domain and range?

a. 

d: $-3 \leq x < 3$

r: $y = -2, 1, 3$

b. 

c. 

d: $-2 \leq x < \infty$

$x \geq -2$

r: $y = \mathbb{R}$

1-110. Uyregor has a collection of six-sided number cubes. He takes one out to roll it.

a. What are all possible outcomes that can come up?

b. What is the probability that a 4 comes up?

c. What is the probability that the number that comes up is less than 5?

Yesterdays' CP's

1-99. With your team, examine each group of equations below and discuss what you would see if you drew the graphs of the four equations on one set of axes. Write a description of what you imagine you would see. (You do not actually have to draw them.)

(a.) $x + 2y = 10 \rightarrow y = -\frac{1}{2}x + 5$

$y = -\frac{1}{2}x + 3$

$-4y = 2x + 8 \rightarrow y = -\frac{1}{2}x - 2$

$y = -\frac{1}{2}x$

Same slope $= -\frac{1}{2}$

4 parallel lines that fall from left to Rt.

(b.) $5x + y = -3 \rightarrow y = -5x - 3$

$y = -\frac{1}{2}x - 3$

$3x - 4y = 12 \rightarrow y = \frac{3}{4}x - 3$

$5y - 2x = -15 \rightarrow y = \frac{2}{5}x - 3$

4 intersecting lines @ $(0, -3)$

1-100. Parts (a) through (f) below are six representations of a relationship between an input and an output. With your team, decide whether each relationship is linear and write a clear summary statement justifying your decision. If the relationship is linear, graph it and find its equation. If it is not linear, describe the growth.

a.

Pieces of Bread	Grams of Fiber
0	0
1	5
2	10
3	15
4	20

$y = 5x$

b. *Killer Fried Chickens charges $7.00 for a basic bucket of chicken and $0.50 for each additional piece. The input is the number of extra pieces of chicken ordered, and the output is the total cost of the order.*

$y = 0.50x + 7$

c.

x	y
10	0
5	5
3	7
2	8
1	9
0	10

d.

x	y
10	1
5	2
4	2.5
2	5
1	10
0.5	20

e. *James planted a bush in his yard. The year he planted it, the bush produced 17 flowers. Each year, the branches of the bush split, so the number of flowers doubles. The input is the year after planting, and the output is the number of flowers.*

f.

x	y
0	–7
2	–2
4	3
6	8
8	13

1-102. Without using a graph, decide whether the relationship shown in the table at right is linear. Write a clear summary statement justifying your ideas. Be prepared to share your ideas with the class.

x	y
1	0.5
4	–7
10	–22
15	–34.5

Compare slopes.

CP: 1- #111 (follow directions on the purple WS)

1.2.4 What can I learn about it?

Function Investigation Challenge

In this lesson, you will have a chance to show your understanding of investigation as you work with a new function.

1-111. In this activity you will investigate the function $f(x)=\frac{5}{(x^2+1)}-1$.

Investigate completely!

HW: 1-
#113 - 115,
and tan rev. worksheet

CH. 1 Test Friday:

You may use your math spiral and a scientific calculator only.

(No graphing calculators.)